DOCUMENT RESUME

ED 400 982 PS 024 680

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TITLE Sibling Relationships in Middle and Old Age.
PUB DATE 96
NOTE 28p.; In: Sibling Relationships: Their Causes and Consequences; see PS 024 677.
PUB TYPE Information Analyses (070) -- Reports - Research/Technical (143) -- Journal Articles (080)
JOURNAL CIT Advances in Applied Developmental Psychology; v10 p47-73 1996

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Adult Children; *Adult Development; Birth Order; Family Role; Middle Aged Adults; *Older Adults; *Sibling Relationship; Siblings
IDENTIFIERS Metamethodology; *Sibling Attitudes; Sibling Rivalry

ABSTRACT

The research discussed in this article focuses on the relationship between siblings in adulthood and the relationship's effects on the siblings themselves. The report begins with a substantial review of the literature on siblings in adulthood, focusing on the meaning of the sibling relationship, methodological problems in studying adult siblings, existence of the sibling relationship in late adulthood, quality of the sibling relationship, effects of siblings on well-being, sibling help in old age, and sibling help to elderly parents. The next portion of the report describes research built upon a metamodel labeled Organicistic/Quasi-Contextualism, which combines a unidirectional, irreversible programmed theory of development with a multidirectional, reversible approach. The articles discusses implications of this model for sibling research, the applicability of adult attachment theory, and the author's empirical research on these questions. Specifically, findings include that during early adulthood siblings spend less time with one another and levels of distance and indifference arise, while during middle and old age there is a tendency for siblings to become close. The relationship shows evidence of siblings acting as helping agents, especially when issues of caring for parents arise, and of increasing psychological support due to increased dependency, decline in physical or mental health, and the lack of a spouse or adult children. (Contains 81 references.) (SD)

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SIBLING RELATIONSHIPS IN MIDDLE AND OLD AGE

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My research has been concerned with the study of the relationship between siblings in the latter part of the life span and its effects on the siblings themselves. Although the topic of siblings in adulthood received relatively little research attention in the past, there has been increasing interest over the past decade. Before proceeding to present my own work, I begin this chapter with a review of the research of others, briefly citing my own work where relevant.

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REVIEW OF SIBLING RESEARCH

Meaning of a Sibling Relationship

First, almost all sibling research has been done with full siblings, with little or no attention paid to half-, step-, adoptive, or fictive siblings. Given this situation, perhaps it would be wise to clarify the distinction between these types of siblings. Traditionally, *full siblings* are defined as two individuals who have both biological parents in common. *Half-siblings* are individuals who have only one biological parent in common. *Step-siblings* are individuals who have no biological parents in common, but who are linked by virtue of the marriage of a biological parent of one to a biological parent of the other (as in blended families following divorce and remarriage). *Adoptive siblings* are individuals whose sibling status is established when a child is legally adopted into a family. *Fictive siblings* are nonfamily

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members who have been accepted into the family as siblings based on desirability or custom rather than on the basis of blood ties or legal criteria. In some cultures fictive siblingship may be sentimental or honorary, but in other cultures (Cicirelli, 1994; Marshall, 1983; Weisner, 1989) fictive siblings have all the privileges and obligations of biological family members.

In the case of the relationship between full siblings, I propose the following definition: Sibling relationships are the total of the interactions (physical, verbal, and nonverbal communication) of two or more individuals who share common biological parents, as well as their knowledge, perceptions, attitudes, beliefs, and feelings regarding each other, from the time when one sibling first becomes aware of the other (Cicirelli, 1985a, p. 180). A sibling relationship includes overt actions and interactions between the sibling pair, as well as the covert subjective cognitive and affective components of the relationship. The implication is that sibling relationships can continue to exist when the siblings are separated by distance and time without ongoing sibling interaction. When one considers also that the full sibling relationship is a relatively egalitarian, ascribed relationship of very long duration in which the siblings share a biological heritage with from 33% to 66% of their genes in common (Scarr & Gracek, 1982), it becomes apparent that the relationship with a full sibling may be quite different from that existing with half-, step-, adoptive, and fictive siblings.

It may be necessary to adapt the definition of a sibling relationship to apply to each type, as the same definition may not apply to the different types. For example, some types of siblings may have a relationship of long duration with much contact, closeness, and commitment, whereas other types of siblings may have a purely formal relationship with little or no contact or interest in one another. Full siblings may feel a greater commitment to the relationship regardless of any disagreements or rivalries than do siblings of other types. Such considerations indicate the need to study other types of siblings and their relationships before generalizing any results from studies of full siblings to other types of siblings.

Methodological Problems in Studying Adult Siblings

The prevalence of incomplete sibling sets can be a serious problem in studies of older adults, as not all members of a sibling set survive from childhood on. Most individuals in the

mid–old (ages 75–84) and old–old (ages 85 and older) groups have experienced the death of some members of their sibling set. It is also true that a greater percentage of deceased siblings of older people are men, so that if one studies sibling relationships in very late life, one may be studying the relationship between sisters who are the remaining members of their sibling sets.

A second and related problem in the study of sibling relationships involves determining which sibling dyad should be the unit of analysis. If one wishes to consider all sibling dyads for a given sample of subjects (e.g., 80 interviewees reporting on 240 sibling dyads), the dyads would not be independent. Furthermore, subjects with different numbers of siblings would be unequally represented in the overall data set. No good solution to this dilemma exists. One possible solution has been to select only one sibling per interviewee for use in the analysis, such as the first-born, the closest in age, or the one to whom the subjects is affectively closest. A variant on this approach is to randomly sample first-born, closest-in-age, and last-born siblings. However, it is not possible to apply such a criterion consistently when surviving sibling sets are incomplete. Another possible solution is to construct an average score representing all siblings in the family or all siblings of a given sex. However, if there is a large variation in the scores pertaining to the various siblings in a family, the use of an average score would be misleading.

Another concern centers on practical reasons for the paucity of sibling studies in middle and old age and the resulting limitations on sample representativeness. Sibling research in infancy, childhood, and adolescence is easier to do, as it typically is carried out either within the nuclear family setting or within school environments, making possible observation studies of face-to-face interaction, laboratory or field experiments, and longitudinal studies under stable conditions. However, in the latter part of the life span, siblings no longer live in the same household as they did in childhood and adolescence, making it not only more difficult to identify sibling pairs and to contact them, but also to bring them together to participate in any research project. One or both members of a sibling pair may be unwilling to participate, finding it threatening to reveal any information regarding themselves in relation to their siblings, feeling that such research is an invasion of their privacy or holding antiresearch attitudes. In the case of elderly siblings, some may be too ill, frail, or immobile to participate. Even if willing to participate, scheduling problems may be insurmountable. Such problems

not only limit recruiting of samples but the types of data collection and research design that can be used, particularly in longitudinal studies. Observational studies or laboratory or field experiments may be totally unfeasible, forcing the researcher to depend on interviews and/or questionnaires.

As a result, the process of building up a body of knowledge about sibling relationships in middle and old age has been slower and has resulted in more gaps than desired. One consequence of the many limitations on research is the continuing need simply to establish the existence of certain phenomena in regard to sibling relations in middle and old age, further delaying the formulation of any theory regarding sibling relationships.

An emerging problem for the study of middle-aged siblings of the baby boomer cohort (and for the study of elderly siblings in the future) will be finding sufficient samples of full siblings reared in intact nuclear families to develop further the body of knowledge concerned with full siblings. Limiting studies to full siblings can be justified with the present older cohort because parental divorce and remarriage were not so common during the period in which they were reared. Given the divorce and remarriage rates of recent decades, the norm is slowly shifting to families composed of half-, step-, adoptive, and fictive siblings. In the future, studies involving only full siblings may become less important than those involving all types of siblings as socializing and helping agents across the life span.

Existence of the Sibling Relationship in Late Adulthood

Preliminary concerns of researchers studying older age groups were the extent to which, given death rates, older adults had surviving siblings and whether they maintained some kind of contact with those siblings in sufficient numbers to make the study of sibling relationships in later life a relevant topic. Findings of survey studies show that, for most older individuals, siblings do exist, maintain contact, communicate, and share experiences until very late in life (Cicirelli, 1979, 1980b, 1981; Clark & Anderson, 1967; Rosenberg & Anspach, 1973; Shanas, 1973; Shanas et al., 1968). Percentages of people over age 60 having at least one living sibling ranged from 78% for the Cicirelli sample to 93% for the sample reported by Shanas and associates; however, the Cicirelli sample represented the older portion of the age range more heavily than did the others. The

same studies indicated that the majority of older people saw their siblings at least several times a year, and very few actually lost contact with each other. Step- and half-siblings, too, continue to keep in touch with each other in adulthood, although they see each other less often than do full siblings (White & Riedmann, 1992).

Older siblings communicate and presumably share experiences either by talking directly to each other about their diverse experiences or by communicating indirectly through a third person. Thus, even if siblings are not physically close enough to share and interpret the same environment in a similar manner, they may share and interpret their separate experiences indirectly.

Quality of the Sibling Relationship

Providing companionship constitutes an important function of sibling relationships in old age. Scott (1983) examined activities reported by siblings and others. Visits, reunions, and happy family occasions were the most frequent sibling activities reported, followed by various types of recreational activities (home, commercial, and outdoor), and by shopping, church attendance, and miscellaneous other activities. When proximity was controlled, frequency of these sibling activities compared quite favorably with similar activities with children. Various authors have found that most relationships in old age are companionate in nature (Adams, 1968, Cicirelli, 1982, 1985a; Johnson, 1982; Troll, Miller, & Atchley, 1978).

Early investigations of the quality of the sibling relationship centered around feelings of closeness and rivalry. Adams (1968) reported that a majority of young and middle-aged adults still felt close to their siblings, even though they were living independently. Despite reduced contact with their siblings, older adults report greater closeness with siblings than did younger cohorts (Cicirelli, 1980b, 1982, 1985a; Ross & Milgram, 1982). In addition to maintaining feelings of closeness, siblings tend to serve as confidants for one another in middle adulthood and old age (Connidis & Davies, 1990).

Sibling rivalry assessed through self-report measures, on the other hand, appears not only to be low throughout adulthood and old age but to be lower for older than for younger cohorts, with rivalry greatest between pairs of brothers and least be-

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tween cross-sex siblings (Cicirelli, 1980b, 1985b). However, evidence from studies that used clinical interview techniques or projective methods (Bedford, 1989; Gold, 1986, 1989; Ross & Milgram, 1982) suggests an incidence of sibling rivalry in adulthood of up to 45%. Although Ross and Milgram's (1982) findings indicate that most rivalrous siblings seek to repair their relationships in later adulthood and old age, Bedford's (1989) work suggests that feelings of rivalry persist into old age. However, most older adults value their relationships with siblings and have developed ways of interaction that avoid conflict and overt rivalry. Not surprisingly, greater conflict was reported in relationships involving half- and step-siblings than in relationships between full siblings (White & Riedmann, 1992).

Although the general trend in sibling relationships in adulthood and old age appears to be one of greater closeness among older groups, investigations of changes in the sibling relationship following various life events found that the relationship was not a static one, but that it waxed and waned depending on the circumstances (Bedford, 1992; Connidis, 1992). Critical events influencing the sibling relationship involved marriage or divorce, changing interests, employment change, relocation to a new area, illness and death, behavior and achievement of children, family arguments, changing frequency of contact, and so on. Such changes may be positive for some sibling dyads and negative for others, depending on the circumstances. A sibling's marriage resulted in a less close relationship for a third of the sibling pairs studied by Bedford (1992; either the new spouse was not liked by the other sibling or the marriage disrupted the flow of a formerly close sibling relationship); for others, marriage to a spouse who was well liked brought siblings closer together.

Other researchers (Gold, 1989; Matthews, Delaney, & Adamek, 1989; Scott, 1990) have attempted to classify sibling relationships in adulthood and old age into a few distinct types. Gold (1989) identified five types, based on patterns of psychological involvement, closeness, acceptance/approval, emotional support, instrumental support, contact, envy, and resentment. *Intimate* siblings are characterized by unusually high devotion and psychological closeness (affection, empathy, self-disclosure); they place the sibling relationship above all others. *Congenial* siblings are close and affectionate, but place greater value on marital and parent–child relationships. *Loyal* siblings base their relationship on adherence to cultural norms; they support each other at special family events and crises and have

regular but not frequent contact. *Apathetic* siblings have mutual disinterest and see each other little, but are not rivalrous or hostile; their lives have simply gone in different directions. Finally, *hostile* siblings have strong negative feelings toward each other, with considerable negative psychological involvement or preoccupation with the relationship. Gold found that 78% of the sibling relationships studied fell into the loyal, congenial, and intimate types, with the remaining 22% divided into the apathetic and the hostile types. This typology was given partial support by Scott's (1990) work, although she found that 95% of her sample fell into the first three types, with the remaining 5% apathetic. Matthews and associates (1989) classified the relationships between the middle-aged brothers they studied into four groups: the closely affiliated (very close to extremely close), the lukewarm (somewhat close to close), the disaffiliated (little or no closeness), and the disparate (disagreed about their level of affiliation).

Effects of Siblings on Well-Being

Because sibling relationships continue to exist throughout adulthood, there is an opportunity for continued influence of siblings on one another. One question that has been more extensively investigated is whether sibling relationships lead to greater well-being in old age. An early study (Cumming & Henry, 1961) found that older people with living siblings had higher morale. A large sample study carried out by Lee and Ihinger-Tallman (1980) failed to find a significant relationship between the frequency of interaction with the sibling seen most often and a measure of morale, when a large number of control variables were accounted for. McGhee (1985) confirmed the findings of Lee and Ihinger-Tallman with regard to the relationship between frequency of interaction and life satisfaction, but found that the mere availability of a sister was related to greater life satisfaction. O'Bryant (1988) found an overall relationship between older widows' interaction with married sisters and higher positive affect, although it appeared to depend on whether or not the widow's adult children provided expected support.

There are a number of situations when the sibling relationship becomes important in dealing with the mental health problems of the elderly (Cicirelli, 1988). Early conflicts and estrangements persisting from childhood or from the time of later

critical incidents (Dunn, 1984), long-term sibling dependencies, or reactivated rivalries and aggressions can all come to necessitate therapy in old age.

Because siblings share a long and unique history, reminiscing about earlier times together is an activity in which siblings engage at many points in the life span, although it seems to become more frequent in old age. In later life, reminiscence becomes part of the life review process (Butler, 1963), in which past experiences are analyzed, evaluated, and reintegrated in relation to present events, values, and attitudes. Prompted by the realization of biological decline in later years, the life review allows the individual to resolve old conflicts and to achieve integrity in the latter portion of life. Butler's (1963) hypothesis that spontaneous reminiscence in the life review led to better adjustment in old age has been supported by a number of studies, at least for those elders who engaged in reminiscence because they valued the activity (Coleman, 1986; Molinari & Reichlin, 1985; Osgood, 1985). There is little research regarding reminiscence of specific sibling experiences. Ross and Milgram (1982) observed that sharing recollections of childhood experiences appeared to be a source of comfort and pride for the elderly, evoking the warmth of early family life and contributing to a sense of integrity that life had been lived in harmony with the family. Cicirelli (1985a) found that old people reminisced about old times more frequently with their siblings than with their adult children. Gold's (1986) elderly subjects reported that reminiscing about sibling relationships during the course of the interview helped them to put their current relationships with siblings into a meaningful context, helped them to understand present events, and helped them to appreciate the significance of sibling relationships in their lives. Sibling reminiscence may prove to be a valuable tool in therapeutic situations as well (Cicirelli, 1988).

The death of a sibling is a life event that nearly all individuals have experienced by old age. It can have far-reaching effects on the individual in childhood (Bank & Kahn, 1982a, 1982b), when it can be particularly traumatic because of its nonnormative nature and the child's lack of understanding. However, adjustment to sibling loss in old age is not necessarily easier. Moss and Moss (1986, 1989) found a heightened sense of personal vulnerability to death when a sibling died in adulthood, with a search for meaning and a sense of existential incompleteness in the family, as well as difficulties in renegotiating

family relationships. In old age, almost half the survivors found the loss difficult for them, with the same themes found as in earlier adulthood.

Over all the areas of research reviewed thus far, relationships with sisters appear to be particularly important in old age, whether it is a sister–sister or a brother–sister bond. One could attribute this to women's greater interest in initiating and maintaining family relationships; however, Gold (1989) found that brothers initiated sibling contacts with sisters about as often as sisters contacted brothers. What seems more likely is that women's emotional expressiveness and their traditional roles as nurturers account for the importance of relationships with sisters (Cicirelli, 1989a).

Sibling Help in Old Age

Despite the fact that most older people say that they want to give tangible help to their siblings in time of need and also regard their siblings as a resource to be called on in their own need (Cicirelli, 1979, 1989a; Goetting, 1986), relatively few actually rely on a sibling for tangible help. Sibling help was regarded as most important when the brother or sister was ill, needed transportation, needed household repairs, or lost a spouse (Cicirelli, 1979; Goetting, 1986; Kivett, 1985; Lopata, 1973; Scott, 1983). Psychological support is a type of support for which siblings may be uniquely suited by virtue of their common values and perceptions (Avioli, 1989; Cicirelli, 1988; Dunn, 1985), and it appears to be freely exchanged.

Sibling help was greater among the oldest age groups (Cicirelli, 1979; Hoyt & Babchuk, 1983). Those who never married or who were widowed tended to receive more help from siblings (Johnson & Catalano, 1981). In addition, sisters were found to both give and receive more help (Gold, 1989), and Blacks and Whites tended to give different types of help (Suggs, 1989). When half- and step-siblings were involved, there was less help to one another in old age than occurred among full siblings (White & Riedmann, 1992). Gold (1989) found that when elders stopped providing help to siblings, it was because their own health had declined. Bedford (1989) suggested, however, that cessation of help to a sibling occurred when there had been no history of reciprocation of help from that sibling; this was particularly likely when the sibling was a brother.

Sibling Help to Elderly Parents

In addition to the help provided an older person's own siblings, the help provided by that person's adult children is an important source of support in old age. The helping behavior of the set of siblings in the adult child generation has also been studied.

The stereotypic model of help for elderly parents is that of one adult daughter who assumes the entire burden of providing help to elderly parents, with only occasional help from other family members. However, recent studies suggest that in many families, the adult siblings share parent care responsibilities more equitably.

Matthews and her colleagues (Matthews et al., 1989; Matthews & Rosner, 1988) examined the helping behaviors of the entire sibling subsystem. Pairs of sisters in a two-child family tended to share responsibility for both tangible help and moral support to their parents, with an almost equal division when both sisters were employed. In larger families, sisters tended to provide regular, routine help to the parents or to help in a "backup" capacity, whereas help provided by brothers tended to be limited to a few areas of male expertise, to be sporadic, or to be totally nonexistent. However, in families including only brothers, the brothers appeared willing to cooperate to meet the parents' needs for help. This finding was supported by the work of Coward and Dwyer (1990), who found that brothers from mixed-gender sibling networks provided significantly less help to parents than did their sisters, but that brothers from single-gender sibships provided approximately as much help as did sisters from single-gender sibships. Brody (1990), however, found that sisters provided more than twice as much help as brothers. In a recent study using data from the National Long-Term Care Survey, a given adult child's initiation or cessation of help to an impaired elderly parent was found to depend on the helping behaviors of that child's siblings, suggesting that the sibling group acted in concert and not as isolated individuals (Dwyer, Henretta, Coward, & Barton, 1992).

The findings of the various studies of the siblings in the adult child generation show considerable convergence despite the different methods used (Cicirelli, 1992b). The data clearly indicate that there is a great deal more support from siblings than has been generally recognized, particularly in cases in which a daughter has experienced marital disruption or is em-

ployed. Overall, sisters provide more help than brothers; sisters have a greater tendency to share help equally; and sisters and brothers tend to provide different types of help, structured according to traditional gender role norms.

Overall, one can conclude that an adult child's helping behavior to an elderly parent is influenced, at least in part, by the participation of the sibling network. Depending on the size and gender composition of the network, adult children in a sibling network may respond to an impaired parent with a cooperative group effort or the responsibility for helping may be left to only one or two of the siblings.

As one might suspect, considerable sibling conflict can occur when the help provided to a parent by various siblings is viewed as inequitable, with up to half of all families reporting some kind of conflict (Brody, 1990; Cicirelli, 1992a, 1992b; Matthews & Rosner, 1988). Conflicts centered around whether siblings were doing their fair share and around criticisms of one another's actual helping behaviors.

MY OWN SIBLING RESEARCH

Metatheoretical Orientation

A Metatheory for Guiding Research. Underlying my approach to research on siblings is a metamodel that I labeled Organicistic/Quasi-Contextualism. Basic to this metaphor is the sequential applicability of world views to different parts of the life span. It is my view that until late childhood or early adolescence, the Organicist metamodel is most appropriate, with its emphasis on genetic-maturational factors. When a certain biological threshold of growth is reached, Quasi-Contextualism emerges as the world view until late in life (approximately 85 years of age), when genetic-maturational factors emerge to control senescence. Organicism becomes the dominant metamodel once again for this segment of the life span (Cicirelli, 1993a, 1993b). This metamodel is an integration of a unidirectional and irreversible programmed theory of development and aging derived from Organicism, with a multidirectional and reversible approach to development and aging derived from Quasi-Contextualism.

Implications of the Metatheory for Sibling Research. What are the implications of this metatheory for studying sibling relationships in middle and old age? First, development and aging are relatively distinct concepts. Aging change is decremental, deteriorative change in the individual, with decreasing potential over time to reverse such change and with a concomitant decrease in adaptation to the environment. Thus, the study of sibling relationships in old age involves aging and perhaps dying individuals who have concerns about the nearness of death and death itself. At this stage of life, the researcher must deal with individuals who are becoming increasingly dependent on others and for whom siblings may be important as helping rather than socializing agents. Also, the sibling relationship itself may decline and suffer dissolution as deterioration of one or more members of the sibship takes place.

Second, the study of the commonality of changes in sibling relationships over time has as much priority as studying individual differences. The quality or lack of quality in their relationship may have as much to do with common events as with nonnormative events.

Third, structure may eventually regulate process in later years. Early in life, the reciprocal interaction between siblings changes the characteristics of the siblings themselves, which in turn influence their interactions, and so on. But eventually, after many years of interacting and communicating, characteristics of the siblings solidify and evoke sterotypic responses from one another. Previous research (Cicirelli, 1993a) found such stereotypic responding between adult children and elderly parents; by analogy the same may apply to elderly siblings. Cyclic changes or processes governed by a structure accumulated over many years seem to be typical. (This does not deny the existence of individual differences due to critical life events.) Thus, one might predict older siblings' relationships as well from input–output models as from input–process–output models.

Fourth, given the above thrust, subjective experience and intrapsychic functioning have priority over context (or concern with contextualizing the environment) in understanding the commonality of sibling relationships. However, and this is most important, such an approach is a matter of emphasis and partly related to the problems of old age, the difficulties of sampling and data collection in this time period, and the exploratory nature of existing research regarding this stage of life. It does not deny the importance of such concepts as systems, processes,

contextualism, individual differences, reciprocal relations, and so on. The latter involve a complementary and essential frame of reference, given other objectives.

Adult Attachment Theory

My own research into sibling relationships in middle and old age has not been theory-driven; that is, no specific theory has guided the research. Rather, I have been more concerned with establishing the existence of certain phenomena in an uncharted territory. However, initial findings have stimulated me to adapt the adult attachment theory or model to apply to sibling relationships. Life-span attachment theory (Bowlby, 1979, 1980; Cicirelli, 1983, 1991) implies that the child's attachment to the mother or primary caregiver not only continues through the adult years but is the basis for the adult child's continued relationship with the parent as well as for helping behavior. Attachment is an ethological-adaptational theory rooted in evolutionary biology, incorporating such concepts as biologically determined development of social attachments and the adaptational value for survival of family members sharing a common gene pool (Lamb, 1988; Nash, 1988; Scarr & Gracek, 1982).

Briefly, attachment is an affectional bond that involves a desire to be physically close to a specific person (the primary caregiver or mother), leading to a system of attachment behaviors that lead to a goal of proximity, which in turn is associated with feelings of emotional security and comfort. Also, there is distress upon separation from the attachment figure and joy upon subsequent reunion (Ainsworth, 1989; Bowlby, 1979, 1980; Bretherton, 1992). To the extent that an infant finds or experiences comfort and security in the presence of the attachment figure, the infant forms a secure attachment and an "internal working model" or mental representation of that attachment figure as responsive and supportive. The hereditary predispositions of mother and infant initiate dyadic interactions between them, which in turn maintain the nurturing and attachment.

Attachment is not restricted to the mother (although this is typically the strongest bond); multiple attachments to other individuals who are responsive and supportive to the child (e.g., father, siblings) can also develop. Such mechanisms as conditioning and self-promoted feedback have also been suggested to account for the formation of these additional attachment bonds

(Gewirtz, 1976; Knudson, 1976). Various researchers have concluded that young children's behaviors toward their older siblings imply a sibling attachment (Bank & Kahn, 1982a, 1982b; Dunn & Kendrick, 1982; Stewart, 1983).

In adult attachment theory, these early attachments of the child to the mother and other family members are held to continue throughout most of the life course (Bowlby, 1979, 1980). Although few would deny that the adult individual has an affectional bond to a parent or sibling, for an affectional bond to be considered an attachment, it must fill several criteria: a need for proximity or contact with the attachment figure, distress or anxiety over separation or threatened separation, pleasure or joy upon reunion, grief at loss of the attachment figure, and feelings of security or comfort in the relationship with the attachment figure. Although not all adult sibling relationships meet these criteria, it is clear that many of them do. As the review of research demonstrated, most adult siblings do remain in contact, seek periodic visits, and find a sense of well-being in the sibling relationship.

An implication of an attachment relationship is that the attached individual seeks to protect the attachment figure, seeking to maintain the survival of the attachment figure and protect the emotional bond (Cicirelli, 1983, 1985a). This is evidenced by findings regarding elders' desire for sibling help and sibling psychological support in a crisis.

Empirical Research

My interest in the study of sibling relationships and sibling influence began in 1967 with the study of siblings in middle childhood, and led to the publication of some 15 articles and book chapters pertaining to this age group over the next decade.

My research into the sibling relationship in adulthood and old age began in 1977. Given the somewhat exploratory nature of adult sibling research, my own studies have focused on (a) the relation of sibling structure to the quality of sibling relationships in middle and old age and subsequent effects on well-being, (b) siblings as helping rather than socializing agents (either to help one another or to provide a coordinated effort to help elderly parents), and (c) formulation and use of an adult attachment model to account for the quality of sibling relationships, well-being, and helping behaviors.

My research into sibling relationships in middle and old age has been relatively limited in scope. A major reason for the limited scope is that, except for birth-order studies of eminence and studies of sibling contact, sibling research in middle and old age is more recent than studying siblings in infancy, childhood, and adolescence. Only within the past decade have researchers begun to take seriously the study of siblings in later life and to attempt to integrate findings throughout the life span. Another reason has been agencies' lack of interest in funding studies of sibling relationships in adulthood and old age, so that research on siblings becomes a secondary endeavor.

Existence of the Sibling Relationship. My early studies were concerned with the questions of whether older people had living siblings and whether they maintained an ongoing relationship with them. In an age-stratified sample of 300 older people and their adult children (Cicirelli, 1979, 1981), 85% of the middle-aged adults had at least one living sibling (88% had siblings in their birth families), compared to 78% of those over age 60. Looking at each age range more specifically, those in the 60–69 group reported an average of 2.9 living siblings, those in the 70–79 age group reported 2.2 living siblings, and those aged 80 and over reported 1.1 living siblings. These groups originally had averages of 4.6, 4.9, and 4.2 siblings, respectively, in their families of origin. Some 26% of the elders had a sibling living in the same city, and 56% had a sibling within 100 miles. Thus, most of the elders studied had living siblings, with the majority having some access to at least one sibling.

Some 17% of the older respondents saw the most frequently contacted sibling weekly or more often, whereas 33% saw the sibling at least monthly; the modal frequency of visiting was several times a year. Although the remainder saw their siblings less frequently, very few respondents actually lost contact with a sibling. In addition, the frequencies of telephoning were similar to frequencies of visiting (Cicirelli, 1979, 1980b).

Quality of the Sibling Relationship. A next step was to explore the quality of the sibling relationship in later life. In my early survey, 65% of older adults reported feeling close or very close to the most frequently contacted sibling (Cicirelli, 1979, 1980b). When cross-sectional age trends from late adolescence through adulthood and into old age were examined, mean closeness to siblings increased as age of the cohort increased (Ci-

cirelli, 1985b). Similar cross-sectional age trends for feelings of sibling rivalry indicated a decline in rivalry reported by older cohorts.

Looking at sibling effects on elders' sense of well-being, I found that elderly men with sisters had a greater sense of emotional security than did those without them, whereas women with sisters were stimulated and challenged in their social roles (Cicirelli, 1977). Additionally, older people who had greater contact, closeness, and values agreement with their siblings had a more internal locus of control than those who did not; the number of brothers was associated with greater externality, whereas there was a tendency for the number of sisters (controlling for the number of brothers) to be related to greater internality (Cicirelli, 1980a).

In more recent work (Cicirelli, 1989a), I found that the perception of a close bond to sisters by either men or women was related to well-being, as indicated by fewer symptoms of depression, whereas a close bond to brothers seemed to have little relevance for well-being.

Shared family history and common language experiences should enable older siblings to practice an intimate communication style, with many shortcuts and implied meanings. However, such sibling communication has been little studied. When I asked elderly interviewees what topics they talked about with their siblings (Cicirelli, 1985a), most communication centered around the discussion of family events and concerns and around old times. In addition, I found that old people discussed old times more frequently with their siblings than with their adult children. The fewer the remaining siblings in the family, the greater the extent of the reminiscing. This indicates that siblings do play an important role in reminiscing. As the surviving members of their families of origin, siblings can use reminiscences of old times together to clarify events and relationships that took place in earlier years and to place them in mature perspective.

In a study of the elders' feelings toward dead siblings, I discovered that not only do feelings of closeness and rivalry persist, but these persisting rivalrous feelings were related to greater symptoms of depression among women with dead sisters (Cicirelli, 1989b).

Sibling Help in Old Age. In my early survey study (Cicirelli, 1979), relatively few elderly respondents reported depending on siblings as a primary source of support. Most help in families is exchanged in a vertical direction, with children

(after the spouse) viewed as the primary source of support in old age. If the need for help becomes too great for the spouse or children to handle or if the normal scheme of family obligations is disturbed, siblings then tend to step in to give help. Indeed, some 60% of the elderly who were interviewed indicated that they would give help in a crisis, although only 7% (or fewer, depending on the type of help involved) regarded a sibling as a primary source of help. Surprisingly, sibling help became more important among the oldest age groups. If occasional and supplementary help had been considered in the study, the contribution of siblings would surely have been much greater.

Siblings' general readiness to give help was illustrated in my recent study of support from family members to hospitalized elders (Cicirelli, 1990), in which support from siblings was second only to support from spouses in certain areas of tangible help. Only about 20% reported receiving any kind of tangible sibling help while in the hospital, and only about 6% wanted or expected instrumental help from siblings when they returned home. In contrast, about half of the elderly patients interviewed wanted psychological support from their siblings, which they received in the form of visits and telephone calls.

In other work, the general hypothesis that the strength of the attachment bond between siblings is related to sibling interaction and psychological support in later life was investigated. In recent work, I found that sibling psychological support was related to an indicator of the strength of the attachment bond, with a stronger relationship when attachment to a sister was involved (Cicirelli, 1989a). In earlier work, a modification of the adult attachment model (Cicirelli, 1983, 1987) was tested in relation to such indicators of sibling psychological support in old age as offers to help, talking over problems, emotional support in a crisis, boosting morale, and adjustment to aging. Results of path analysis showed that the indicator of attachment had a direct and strong effect on psychological support, with a much weaker indirect effect through effects of attachment on visiting and telephoning.

In my analysis of longitudinal data from the National Long-Term Care Survey (Cicirelli, Coward, & Dwyer, 1992), only about 7% of impaired elders received help from siblings on a given measurement occasion. The provision of sibling help was associated with the number of the elder's impairments of instrumental functions and not impairments in basic activities of daily living, indicating that sibling help tended to be given in such areas as housekeeping, transportation, financial matters, and so

on, rather than in areas involving direct personal care. Further, sibling help tended to go to those elders who had neither spouse nor children, supporting the concept of a substitution hierarchy of family helpers. The majority of sibling helpers continued to help over the 2-year period; those who ceased helping appeared to do so either because the elder's health had improved or because they themselves were older and perhaps in poor health. Gender and race were not associated with receiving help from siblings, failing to support earlier findings of Gold (1989) and Suggs (1989). One source of explanation is the differences in methodology between the studies. The National Long-Term Care Study determined only the presence or absence of help received from siblings, whereas Gold obtained a quantitative measure and Suggs determined frequency of help. Also, the former study focused on recipients of long-term care, whereas Gold and Suggs studied elders who were comparatively well. As a result, sibling help may have been more a matter of volition in the Gold and Suggs studies, whereas in the long-term care study, siblings felt compelled to give aid (regardless of the gender of the recipient) in a situation where no other family member was available.

An additional finding was that those elders who received help from siblings were younger on the average than those who did not receive such help. However, the maritally disrupted and the never married may experience impairment at a younger age than those who are married (Kasl & Berkman, 1981). Also, the siblings who provide help to impaired elders are themselves older and may have health problems of their own; thus, siblings may not be able to give help to those elders in the upper part of the age range, regardless of how much they might wish to do so. Both factors may play a part in accounting for the younger age of elders receiving help. Those elders who were older were more likely to report the cessation of sibling help over time; this is consonant with Gold's (1989) finding that older siblings stopped providing help because their own health had declined. Unfortunately, the study data did not enable us to determine whether such might be the case. The findings support the generalization that help from siblings comes when the elder has functional impairments that require help and when support from a spouse or adult children is unavailable for one reason or another.

Sibling Help to Elderly Parents. The helping behaviors of a set of adult siblings to their elderly parents has been a question of considerable interest to me, both in terms of how

they shared the responsibility for parent care and the factors motivating their helping behavior.

In an early study (Cicirelli, 1984), I investigated the contributions made by siblings of the adult child who was considered by the elderly parent to be "closest" and the one to whom the parent turned first for help. Two groups of adult children were studied, those who had intact marriages and those who had experienced some form of marital disruption (i.e., divorce, widowhood, or remarriage). Adult children with intact marriages reported giving significantly more help to their elderly parents than did their siblings, whereas those with disrupted marriages reported giving about the same amount of help as did their siblings. In both cases, however, there were gender differences in the type of help provided, with sisters named more frequently as helpers with homemaking, personal care, home health care, transportation, and psychological support, and brothers named more frequently as helpers with maintenance, bureaucratic mediation, and protection.

In a more recent study of adult sibling helping networks (Cicirelli, 1992a), four patterns of sibling care sharing were identified, depending on the portion of the caregiving load assumed by the various siblings. The patterns and the percentages of families manifesting each pattern were: principal caregiver provides all care and siblings provide none, 5%; principal caregiver provides over half the caregiving load and siblings share the remainder, 55%; respondent provides more care than siblings, but no one provides over half of the caregiving load, 19%; and approximately equal division of caregiving load among all siblings, 21%. It must be remembered, of course, that respondents' egocentric bias will lead them to overestimate their own contributions in relation to those of their siblings (Lerner, Somers, Reid, Chiriboga, & Tierney, 1991). Despite the apparent inequities in caregiving contributions, only 37% of respondents felt that the division of caregiving responsibilities with their siblings was unfair, and only 22% failed to understand why certain siblings could not contribute to their parents' care. In about half of the families, all siblings coordinated their efforts in providing care to parents, whereas in about a fourth of the families there was partial coordination of sibling efforts, and in the remaining fourth of the families each sibling helped with care as he or she wished, independently of the others.

One important area of adult children's help to elderly parents is the making of decisions about the parent's care, especially

when the parent is no longer able to make decisions autonomously. In a recent study of caregiving decision making, I asked first how decisions were currently made about the care to be provided to the parents, and then how decisions would be made when parents could no longer decide on their own (Cicirelli, 1992a). For current care, in only 17% of families did all siblings discuss specific caregiving tasks together; in 45% of the families, one or two of the siblings would decide things; in 22% of the families, the sibling who had specific abilities in an area made caregiving decisions in that area; in 8% of the families, whichever sibling happened to be on the scene made the decision; finally, in only 8% of families, the parent made the decision. Regarding future decisions in the event of the parent's incapacity, in 65% of the families all siblings would reach a consensus decision, and in the remainder of the families one or two siblings would make the decision.

In another portion of the same study (Cicirelli, 1992a), decision-making beliefs and caregiving decisions themselves were compared for two groups of caregiving daughters. The first group of daughters provided all or the majority of care needed by the parent, and the second group shared caregiving more equally with siblings. Beliefs about whether caregiving adult children should respect the parents' rights to make their own decisions autonomously and about whether adult children should make decisions paternalistically in the parents' behalf were measured. In addition, the daughters were asked about how decisions were made in 40 common caregiving areas. Although the two groups of caregiving daughters did not differ in their beliefs about autonomy and paternalism, they did differ on how the caregiving decisions were actually made. In the sibling-shared caregiving group, significantly more decisions were made autonomously by the parent than in the single caregiver group. Conversely, daughters in the single caregiver group made more paternalistic decisions for the parent than those in the sibling-shared caregiving group. It appears that siblings acting as a group to make caregiving decisions have more respect for an elderly parent's autonomy than does a single adult child deciding things independently. Somehow, when the siblings make decisions together, there seem to be checks and balances that insure that the parent's views are respected and represented.

Work in Progress. Currently in progress, with data analysis just getting underway, is a study of communication patterns

of sibling dyads in middle age. Both members of a sibling dyad were interviewed in depth about the nature and extent of communication between them, as well as assessed on a variety of measures of their interpersonal relationship. Results should increase our understanding of how siblings interact in adulthood.

SUMMARY AND CONCLUSIONS

From a structural rather than a process approach, sibling constellation variables provide a framework around which to organize sibling relationships and interactions in adulthood and old age. These variables include the number of siblings in the family (alive and dead), their birth order or ordinal position, their age spacing, their gender, the ratio of female to male siblings, and their age level (whether they are young adults, middle aged, or elderly). Although some researchers hold that sibling research should consider process variables rather than sibling structure variables, others (Scarr & Gracek, 1982; Teti, 1992) hold that sibling constellation variables remain important in helping to understand certain phenomena.

The existing research makes clear that, for most people, sibling relationships remain important in middle and old age. Although siblings continue to maintain contact until very late life, it appears that the mere awareness of the existence of living siblings rather than the amount of contact is important for various aspects of well-being. In particular, having a sister has been related to higher morale, life satisfaction, social stimulation, and sense of security, and to less depressive symptomatology. Whether the different sex-role expectations pertaining to relationships with sisters as compared to those with brothers are responsible for the observed phenomena has not been established yet.

Sibling relationships do not remain constant, but change over the life span. In general, during infancy and childhood, siblings interact to form their basic relationship. Their developing relationship in childhood and adolescence may be characterized at any stage by its predominant aspect: closeness, rivalry, or indifference. During early adulthood, siblings begin to share their lives less as they become involved in careers, marriages, and other interests, and a certain distance or indifference may predominate. But during middle age and in old age, there is a ten-

dency for siblings to become closer again. Dormant rivalries may resurface at this time during stressful family situations but, in general, closeness tends to predominate, with only a small percentage of siblings maintaining rivalry or indifference.

Siblings act as socializing agents throughout the life span, but in middle age, there is a shift toward acting as helping agents, with the sibling group providing needed help for their aging parents. There is some evidence that siblings may act in a concerted way to provide such help. There may be subsystems of siblings providing help in larger families; sister teams provide more help than do brothers. This trend for siblings to act as helping agents continues into old age, in which siblings provide psychological support, expressions of commitment for instrumental support if needed, and actual instrumental support for one another. Siblings are seen as a kind of backup system; they are considered a source of help in a crisis, but are not frequently used. Such support is related to the increased dependency of the elderly, accompanying declines in physical health and mental functioning, and the lack of availability of a spouse or adult children.

The adult attachment model is one possible way of explaining the persistence of sibling relationships in later life, as well as adult children's motives for helping one another and their concerted effort to help elderly parents. As yet, however, the evidence supporting such a model is quite limited.

Because there has been relatively little research into sibling relationships in this portion of the life span, there are many areas in which future research can proceed. There is an urgent need to study relationships between pairs who are not full siblings; virtually nothing is known of such relationships at the present time. Certainly there is a need to study the process of sibling interaction and how it is influenced by other family subsystems, as well as to study the effects of context. No existing studies have investigated process, and only a few have gathered reports from more than one sibling concerning their dyadic relationship. Finally, there is a need to determine whether findings are universal or culture-specific (Cicirelli, 1994; Weisner, 1989).

If present trends are an indication, sibling relationships may take on greater significance in the future as members of the baby boom generation reach old age. Not only do they have more siblings than members of the previous generation, but they may need to rely on sibling help to a greater extent because they have had less stable marriages, more divorces, and fewer children of their own. Conceivably, the sibling connection

could become a central relationship in their lives. However, with the increased prevalence of step-, half-, adoptive, and fictive siblings, it is unclear just what the resulting sibling relationships will be in middle and old age. In that event, much research needs to be done to understand sibling relationships and help in middle and old age.

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